

## **1998 Revised**

### **GUIDANCE FOR THE NATIVE WILDFLOWER PLANTING REQUIREMENT**

(Written in 1988 by the Office of Environmental Policy in response to the 1987 STURAA)

#### Statutory Requirement

Section 130 of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA) amended 23 U.S.C. 319 by adding a requirement that native wildflower seeds or seedlings or both be planted as part of any landscaping project undertaken on the Federal-aid highway system. At least one-quarter of one percent of funds expended for a landscaping project must be used to plant native wildflowers on that project. This provision requires every landscaping project to include the planting of native wildflowers unless a waiver has been granted. Federal-Aid Highway Program Manual 6-2-5-1 has been changed to reflect the STURAA amendment.

#### Operation Wildflower

The Federal Highway Administration (FHWA) has administered a voluntary, cooperative program titled, "Operation Wildflower" with the National Council of State Garden Clubs and State highway agencies since 1973. Unlike Operation Wildflower, however, the program requirements of STURAA are mandatory. However, it does not prohibit the acceptance of native wildflower seeds or seedlings donated by civic organizations or other organizations or individuals to be used in landscaping projects. State Garden Clubs may continue to pay for or supply native wildflower seeds or seedlings. However, neither the donated funds nor the value of donated plant materials can be counted toward the minimum expenditure required by STURAA.

The new program requirement does not discontinue the program policies of Operation Wildflower. Federal funds are still available for participation in the cost of planting wildflowers supplied by garden clubs and other organizations or individuals even though the planting may not be part of a landscaping project.

#### Landscaping Project

The native wildflower planting requirement is applicable only to landscaping projects and not every Federal-aid highway construction project. A landscaping project is defined as, "an action taken as part of a highway construction project or as a separate action to enhance the esthetics of a highway through the placement of plant materials consistent with a landscape design plan."

#### **Would like to delete.....**

(Seeding, temporary or permanent, undertaken for erosion control purposes does not constitute a landscaping project. Screening projects are not landscaping projects unless combined with other screening elements (walls, fences, berms, etc.) to enhance their visual quality.

States are not prevented from planting native wildflowers on highway projects as part of its erosion control measures. Additionally, a State can establish a landscaping project that involves only native wildflowers. The project would follow normal procedures for programming landscaping projects.)

**Would like to add.....** (Planting native wildflowers and associated grasses, trees, shrubs and vines as part of an erosion control, wetland mitigation or other restoration solution, or as part of a total vegetation management program is certainly encouraged. These are simply not considered landscaping projects.)

#### Expenditure Formula

The one-quarter of one percent expenditure requirement is intended to establish a minimum amount of project landscaping expense devoted to planting native wildflowers. A State can expend more than this amount. The formula is applied only to the cost associated with the landscaping project. It does not include the total highway construction cost. However, all work performed in association with the landscaping is to be included in the total landscaping expenses. This would include, but not be limited to, costs associated with development of the design plan, site preparation, irrigation systems, plant materials, installation, and establishment period costs.

#### Waivers

Although the wildflower requirement allows the FHWA to grant a waiver if the State certifies that:

1. Native wildflowers or seedlings cannot be grown satisfactorily; or

2. There is a scarcity of available planting areas; or

3. The available planting areas will be used for agricultural purposes,

project waivers are discouraged. The STURAA criteria for waivers no longer are appropriate in terms of our knowledge about native wildflower establishment ten years after the passage of STURAA. FHWA encourages more than the minimum use of native wildflowers and welcomes creative arrangements to plant more rather than less than the requirement. Please note our 1996 \_\_\_\_\_ agreement with the California Department of Transportation on page \_\_\_\_\_

## **Specification Considerations**

Specifications cannot be too specific, but should be based on realistic procedures and expectations. Specifications not only serve as guidelines to successful projects, but as education to those who use the specifications. Here are considerations to use when fine-tuning your specifications for native wildflower and native grass plantings. Remember the practice continues to be more of an art than a science. That means there is no one correct solution that will succeed on all roadsides; but rather that each State, and possibly natural region within a State, will need to decide what works best. Then by writing specifications, the State will require what works best from its contractors and consultants. Here is an outline of a specification with details to be considered.

### **1. DESIGN:**

#### **1. Site Selection:**

- \* Analysis of site conditions is everything! Without this information, you cannot match species to the harsh environmental conditions of a right-of-way.
- \* Chose high visibility sites like slopes, interchanges, rest areas, State or city entrances, IF you are confident you can succeed.
- \* Chose sites outside City limits, IF you are still at a novice level of experience.
  
- \* It is cheaper to protect existing native wildflowers and native grass remnants than to restore them.

### **2. CONCEPT**

- \* Find a local remnant of native wildflowers and grasses to use as a model.
- \* Contact your State's Natural Heritage Program and/or The Nature Conservancy to find local preserves with similar environmental conditions.
- \* Visit the model to observe distribution of the flowers among the grasses, the species diversity, the seasonal changes, overall structure, micro climate relationships, and how the community changes over time.
- \* Use the inventory list of this model to shop for species appropriate to your site.

### **3. PLAN**

- \* Limit and site beds or planting areas with maintenance in mind, i.e. sweeping lines are easier to mow around.
- \* Include maintenance notes in your plan.
- \* Keep the design simple; for visibility at high MPH as well as the installing contractor.

#### 4. MATERIALS

##### a. *Native Wildflower Seed Mix*

- \*List all native wildflowers available through commercial or harvest sources in your area. Keep this as a check-off list or permanent part of the specification.
- \*Note species that are available in seedling form only or species that can be used as seedlings are needed for visibility, diversity, or special considerations.
- \*Aim for as long a list as possible to encourage diversity on all projects. Also a long list will be needed to meet the constraints of a site: dry, mesic, wet; soil types: sun or shade; time of bloom; heights; colors, and so on.
- \*Attempt to use a long list of at least 20 or more species to assure diversity and interest over time.
- \*Planting rate of pounds per acre varies with equipment and experience. Cost is the strongest determining factor. Five pounds per acre along with five to ten pounds of native grasses can get spectacular results linked to good site preparation and cooperative weather patterns.
- \*Seedlings to enhance the project can be added.
- \*Every native wildflower/grass seed mix should be site specific, since all are different.

##### b. *Native Grass Seed Mix*

- \*Always use native grasses with native forbs or wildflowers
- \*Always plant them at the same time.
- \*Use a minimum of three grass species in each mix.
- \*The seeding rate per acre is specialized and low, unlike agricultural seeding rates.
- \*Consider a cover/nurse crop of an annual or short-lived native species. All States appear to have a short-lived wildrye species that could serve this purpose.
- \*Base choice on grass characteristics of height, bunch or sod formers, cool or warm season, annual, perennial, plus moisture and soil tolerances.

##### c. *All Seed and Seedlings*

- \*Seed should be from current production and no more than one year old, free of mold or insect disease.
- \*Seed origin should be furnished. You decide the region of adaptation boundaries.
- \*Chose seed collected and/or grown in your region.
- \*All seedlings should be grown from known seed origin.

##### d. *Contractor*

- \*30 days within award of contract, Contractor should provide written certification from supplier of seed/seedlings. As long as native seed is in short supply, this safeguard is necessary to avoid unwanted substitutions. One strategy is to call for a longer list than needed, so that the Contractor can choose what is available that season; i.e. list 35 species, when you are willing to accept 25. This allows shopping room. The early certification guarantees an order is secure in a short supply market.
- \*Limit these contracts to contractors with experience, whenever possible.
- \*Educate experienced and potential contractors in an annual winter workshop.

Include consultants, seed growers, designers and maintenance to learn with them.

\*Certification of seed must include:

1. Name and location of seed supplier (warning: labels can be switched)
2. Origin and date of harvest
3. Seed germination statement (standards are not consistent at this time)
4. On delivery, certify weights of each species.
5. Each lot of seed should be individually packed and stored in paper bags.
6. Assign an inspector who understands this kind of planting and what to check.

## 5. SITE PREPARATION

### a. ***Vegetation Removal Prior to Seeding***

\*Kill existing vegetation with nonselective, non-residual herbicide, a glyphosate without surfactant if possible. After evidence of kill (7-14 days) mow to 2".

\*Mow or rake off. Burning off dead vegetation is done in some areas.

\*Steam or hot water: avoid techniques using high pressure or hot water sterilization. They need further environmental study.

\*Methyl bromide will no longer be available after the year 2000. This application kills all biota (useful and non useful) and has environmental impacts.

### b. ***Avoid Soil Disturbance***

\*Avoid deep tillage which pulls up new weed seed to compromise plantings.

\*Scarifying soil no deeper than 1/2 inch, reduces weed and erosion problems.

\*No till planters are now available to plant into existed dead stubble.

\*Avoid adding imported topsoils unless certified weed-free.

### c. ***Soil Amendments***

\* Amendments should be limited due to cost concerns.

\* Fertilizers assist weed growth. Native forbs and grasses, if matched to the site, should establish without fertilizers, if moisture is available.

\* Amendments, if used, should be monitored for potential runoff impacts.

\* Addition of peat moss has not proven beneficial to these plantings over time.

\* Addition of native mycorrhizae has proven beneficial.

\* Often, the addition of weed-free sand can benefit a soil for plant establishment.

## 6. INSTALLATION

### a. ***Timing***

\*Must be decided specifically for your region. The planting window for native plants does not necessarily coincide with agricultural or residential planting times. Some regions prefer spring or early summer, others prefer fall or dormant plantings.

\*Difficulty arises in new construction projects and the contractor's schedule.

When possible, let the planting contract separately to avoid problems for both contractors.

### b. ***Equipment***

- \* Specialized drills, broadcasters, and hydroseeders are available with mixed preferences.
- \* Chose carefully and experiment on small projects to determine the best for your region.
- \* Bottom line, the seed only germinates if it makes contact with the soil and moisture.
- \* Whichever you chose, deliver the weed-free mulch separately.

c. ***Follow-up***

- \* Cover seed by harrowing, dragging, raking or cultipacking.
- \* Mulch with weed-free straw/hay or native grass straw. Consider disc-anchoring.
- \* Avoid irrigation. During periods of drought, supplementary watering might be in order.
- \* A high (6-8") mowing once or twice during the first season reduces weed competition.
- \* Record keeping - develop a 3-5 year record of specifics to analyze project later.

## NATIVE WILDFLOWER REQUIREMENT AGREEMENT

In 1995 an exemption was granted the California Department of Transportation (Caltrans) by the Federal Highway Administration. Because the planting of native wildflowers might not be appropriate on all projects, especially urban sites, a type of banking alternative was developed by Caltrans. In 1998 the Wisconsin Department of Transportation (WisDOT) used the Caltrans exemption as a model for their own native wildflower banking system, viewed by the FHWA as a commitment to establish and/or protect more native wildflowers than the U.S.C. 319(b) landscaping requirement. Their example demonstrates the flexibility of FHWA. Furthermore, as Wisconsin's FHWA Division Administrator wrote upon signing the agreement, "the new program should lend great support to WisDOT's strategic landscaping objectives including: safety enhancement, effective erosion control, reduction in the use of herbicides, pesticides, and fertilizers, and reduction of overall roadside vegetation maintenance costs." The Wis DOT programmatic waiver is possible when certain stipulated conditions are met (shown below). This agreement may be handled through each State's FHWA Division Office.

1. Native wildflowers shall be used on Federal-aid highway planting projects as required by existing Federal law wherever it is practical, appropriate, and cost-effective.
2. WisDOT shall establish a fund to which Federal-aid highway planting project moneys may be deposited or combined for use with other native wildflower plantings to achieve larger scale plantings.
3. WisDOT shall use an established method to identify a number of high-quality sites on Federal-aid highway rights-of-way in the State to preserve or establish native vegetation that will serve as native wildflower banking areas. The banking sites shall be developed in sufficient area to compensate for the locations where wildflower plantings are found to be inappropriate.
4. WisDOT shall develop a policy and guidance regarding the use and preservation of native wildflowers for use by landscape (and maintenance) staff that reflects the terms and conditions of this agreement.
5. WisDOT may determine that it is inappropriate to use native wildflowers where any of the following conditions exist:
  - a. Where the adjacent urban landscape demands a compatible formal planting design inconsistent with the use of native wildflowers.
  - b. Where the required native wildflowers would result in poor planting design, regardless of adjacent landscape.
  - c. Where cultural practices necessary to sustain the rest of the planting would lead to the decline of the native wildflowers.
6. WisDOT shall determine that it is inappropriate to use non-native wildflowers whenever such species are perceived as a threat to the genetic integrity of similar native species in the region or whenever such species are considered invasive to natural areas, or competitive with native plantings.